

Majestic

SERVICE MANUAL

Technical Data Pertaining to

Model 15 Chassis

Model 15B Chassis

Model 150 Chassis

Model 25 Chassis

OCTOBER, 1931

Model 15 Chassis is Employed in Havenwood,
Ellswood and Sherwood Models

Model 15B Chassis is Employed in Fyfewood Model

Model 150 Chassis is Employed in Castlewood
Phonograph Combination Model

Model 25 Chassis is Employed in Brentwood,
Cheltenwood and Brucewood Models

GRIGSBY-GRUNOW COMPANY
CHICAGO, U. S. A.

P R E F A C E

The information contained in this Manual applies to the Majestic Models 15 and 25 Superheterodyne receiver chassis. The completely new design and progress shown in these two superheterodyne Receivers warrants your careful perusal of this Manual so that you may become fully acquainted with what is considered the outstanding achievement in present day Superheterodyne Receivers. The Engineering Laboratories of the GRIGSBY-GRUNOW COMPANY have incorporated in these Receivers every available improvement known to present day radio science. It is to your advantage, therefore, to fully familiarize yourself with the characteristics of this circuit, so that you may intelligently render required service for the benefit of the customer in obtaining the excellent performance of which these Receivers are capable. There are several aligning adjustments on the 15 and 25 Chassis, and it is imperative that this Manual be followed as to aligning procedure before any attempt is made to make any necessary corrections of alignment.

GRIGSBY-GRUNOW CO.

Technical Data for Pertaining to Model 15 and Model 25 Chassis

The Circuit

MODEL 15. The Model 15 Chassis employs the efficient superheterodyne circuit especially designed to give full performance with the minimum number of tube stages. The circuit from antenna to speaker is arranged as follows: Oscillator and first detector stage, intermediate frequency amplifier stage, second detector and pentode power amplifier stage. Including the rectifier, five tubes are employed in the Model 15 Chassis. The Model 15 superheterodyne circuit differs from the customary superheterodyne circuit employed in compact receivers, in that the design of the pre-selector input circuit gives an "image ratio," that gives this receiver perfect freedom from heterodyne interference.

MODEL 25. The Model 25 Chassis employs the efficient superheterodyne circuit designed with a greater number of tuned stages to give the characteristics of uniform high sensitivity, single channel selectivity (10 kcs.), and nearly perfect audio frequency response. The circuit from antenna to speaker is arranged as follows: pre-selector stage, oscillator, first detector stage, intermediate frequency amplifier stage, second detector (twin power detection), and push-pull pentode power amplifier stage. Nine tubes are employed in the above mentioned stages. The Model 25 superheterodyne circuit differs from the regular superheterodyne circuit employed in the customary receivers, in that the design of the detector stage provides an almost perfect fidelity of signal through the detectors to allow an audio frequency output from the speaker of faithful tone reproduction.

Method of Biasing

Model 15. The necessary bias is obtained on the first detector and oscillator stage through a 10,000 ohm resistor between cathode and ground. The intermediate frequency amplifier is biased through the volume control and a balance resistor of 264 ohms which is contained in the volume control. The second detector is biased through a 40,000 ohm resistor to ground in the cathode circuit.

Model 25. The radio frequency amplifier, first detector and intermediate frequency amplifier are biased by the volume control and a balance resistor of 160 ohms contained in the control which is in the cathode circuit of these tubes. The twin power detectors are biased in their grid circuit by a 250,000 ohm resistor to ground.

Volume Control System

Model 15. Control of volume is obtained in the Model 15 chassis by a 11,500 ohm control which controls the bias of the oscillator, first detector and I. F. amplifier stages. This control is so arranged in the circuit that in addition to controlling the bias of these two tubes, it controls the input voltage to the pre-selector stage simultaneously, so that a balanced control system is obtained.

Model 25. Control of volume is obtained in the Model 25 chassis by a 6500 ohm control which controls the bias of the radio frequency amplifier, first detector and intermediate frequency amplifier stages.

Sensitivity

In cases where low sensitivity is encountered, the first step taken to remedy the condition should be the checking of the radio frequency type G-51 and G-51-S Tubes. Tubes having a low amplification factor in any of these positions, will seriously affect the sensitivity of the receiver. These procedures should always be taken prior to any attempts at remedy by realignment of the condenser gang.

Power Supply System

Model 15. The power supply system of the Model 15 chassis consists of a power transformer, filter unit and dynamic speaker field. The filter unit contains two 8 mfd. especially designed dry electrolytic condensers, and the speaker field which acts in the capacity of a choke.

Model 25. The power supply system of the Model 25 chassis consists of a power transformer, filter unit and dynamic speaker field. The filter unit contains two 8 mfd. especially designed dry electrolytic condensers, a liberally designed choke and the speaker field in addition.

Alignment

In checking the alignment of the Models 15 and 25 chassis, the intermediate frequency transformers should not be aligned unless there is definite reason to believe that they are out of alignment. The alignment of these transformers at the factory is more or less permanent, and should not need further adjustment, except in rare cases.

IN ALL ALIGNMENT PROCEDURE AN OUTPUT METER MUST BE USED.

R. F. and Oscillator Alignment

1. Tune in station in the vicinity of 1500 kilocycles, or put output of local oscillator (if available) into receiver.
2. Align R. F. stage, and oscillator tuning condenser. The R. F. stage and oscillator aligning condensers are on the gang condenser.

Oscillator Tracking Condenser Alignment

1. Tune in local oscillator to 600 kilocycles.
2. Adjust both tuning control and tracking condenser simultaneously to give maximum signal as noted on output meter. This will be obtained by rocking tuning control across resonance point while adjusting tracking condenser to give maximum output at the point of resonance. This operation cannot be performed without local oscillator and output meter.

Check

Check the alignment previously made of R. F. and oscillator aligning condensers in the vicinity of 1500 kilocycles.

New G-27-S, G-24-S and G-51-S Spray Shield Tubes

The new Majestic Spray Shield Tubes are a distinct advancement in the art of tube design. The principal advantages of the Spray Shield Tube are as follows:

1. More efficient shielding of each circuit.
2. More amplification possible per tube stage.
3. Regeneration reduced to a minimum.
4. Improved tone quality due to absolute stability of the amplifier stages.

The above advantages overcome some of the principal problems that have been holding back the design of high sensitivity receivers with the requisite tone quality.

"Off" and "On" Line Switch

The "off" and "on" switch on both the Model 15 and 25, is attached to the volume

control shaft. Turning the volume control completely to the left shuts the receiver off. The first fifteen degrees rotation of the control to the right will turn the receiver on. The balance of rotation to the right controls the volume of the receiver.

Models G-10-B, G-11-B and G-13 Dynamic Speakers

The Model G-10-B Dynamic Speaker has a field resistance of 1750 ohms at 78° F. The Model G-10-B Dynamic Speaker field structure is of the heavy "U" construction. This speaker is used in conjunction with the Majestic Superheterodyne special cone.

The G-11-B and G-13 Speakers employ the same structure as the G-10-B, but are used in conjunction with larger size cones to match acoustic properties of the cabinets in which they are employed. The Model G-10-B Speaker employs a hum bucking coil as an additional aid in the filter system in the Model 15 chassis. This coil consists of a small winding around the field coil and is connected in series with the cone coil. This winding induces hum into the cone coil circuit in opposite phase to any hum that passes the filter system. The effect is a cancellation which reduces hum to a minimum in the speaker.

Antenna and Ground Terminals

Terminals are provided on the Models 15 and 25 chassis for antenna and ground connections. Antenna and ground terminals are located at the rear of the chassis, and clearly marked. Normal antenna length should be approximately 30 to 40 feet. When the receivers are to be operated in localities several hundred miles distant from broadcasting stations, a longer antenna is recommended. In such cases where consistent long distance reception will be required, antenna length should be approximately one hundred feet.

COLOR CODE

Power Transformer

Model 15

Primary	Start of Winding	—Yellow
	Finish of Winding	—Yellow
	Start of Anode	—Yellow
	Center Tap (Anode)	—Black
	Finish of Anode	—Red
	Start of Heater	—Yellow
	Finish of Heater	—Yellow
	280 Fil. Start	—Black
	280 Fil. Finish	—Black

Model 25

Primary	Start of Winding	—Yellow
	Finish of Winding	—Yellow
	Start of Anode	—Red
	Center Tap (Anode)	—Black
	Finish of Anode	—Red
	Start of No. 1 Heater	—Black
	Finish of No. 1 Heater	—Black
	Start of No. 2 Heater	—Yellow
	Finish of No. 2 Heater	—Yellow
	Start 5 v. Fil.	—Black
	Center Tap No. 1 Heater	—Red
	Finish 5 v. Fil.	—Black

O-1 M.A. METER

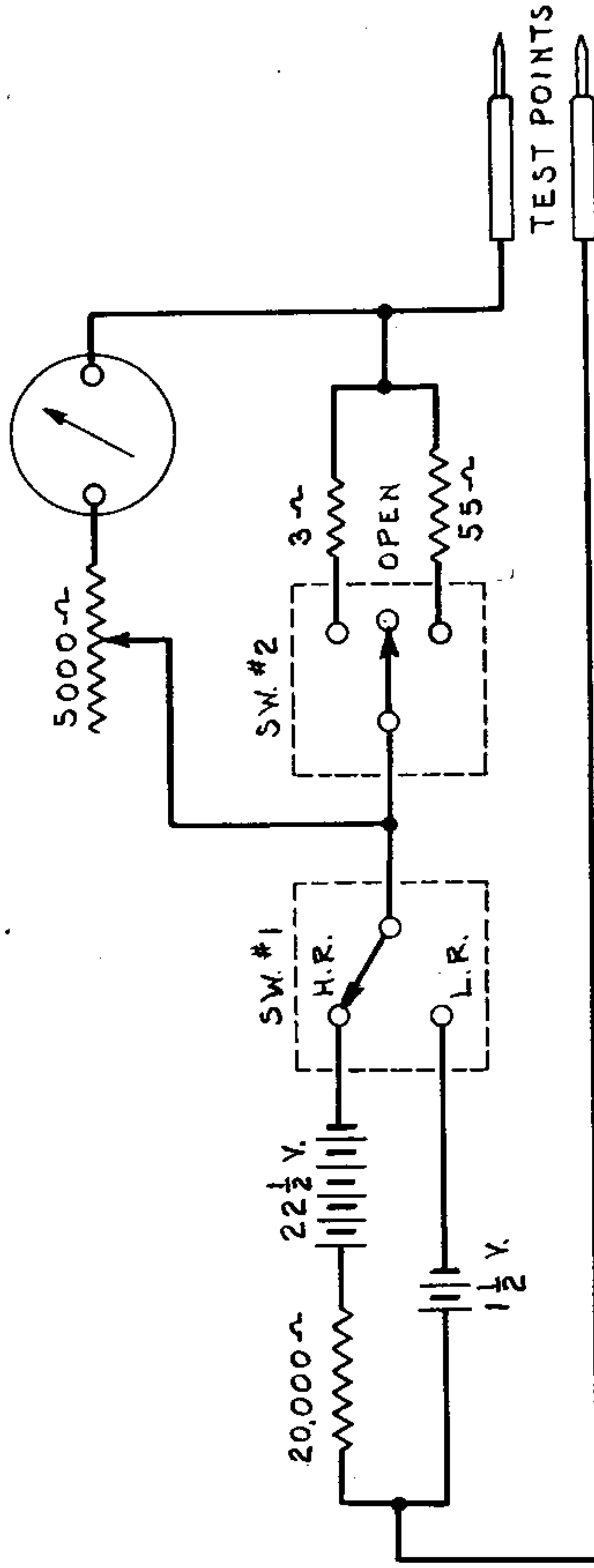
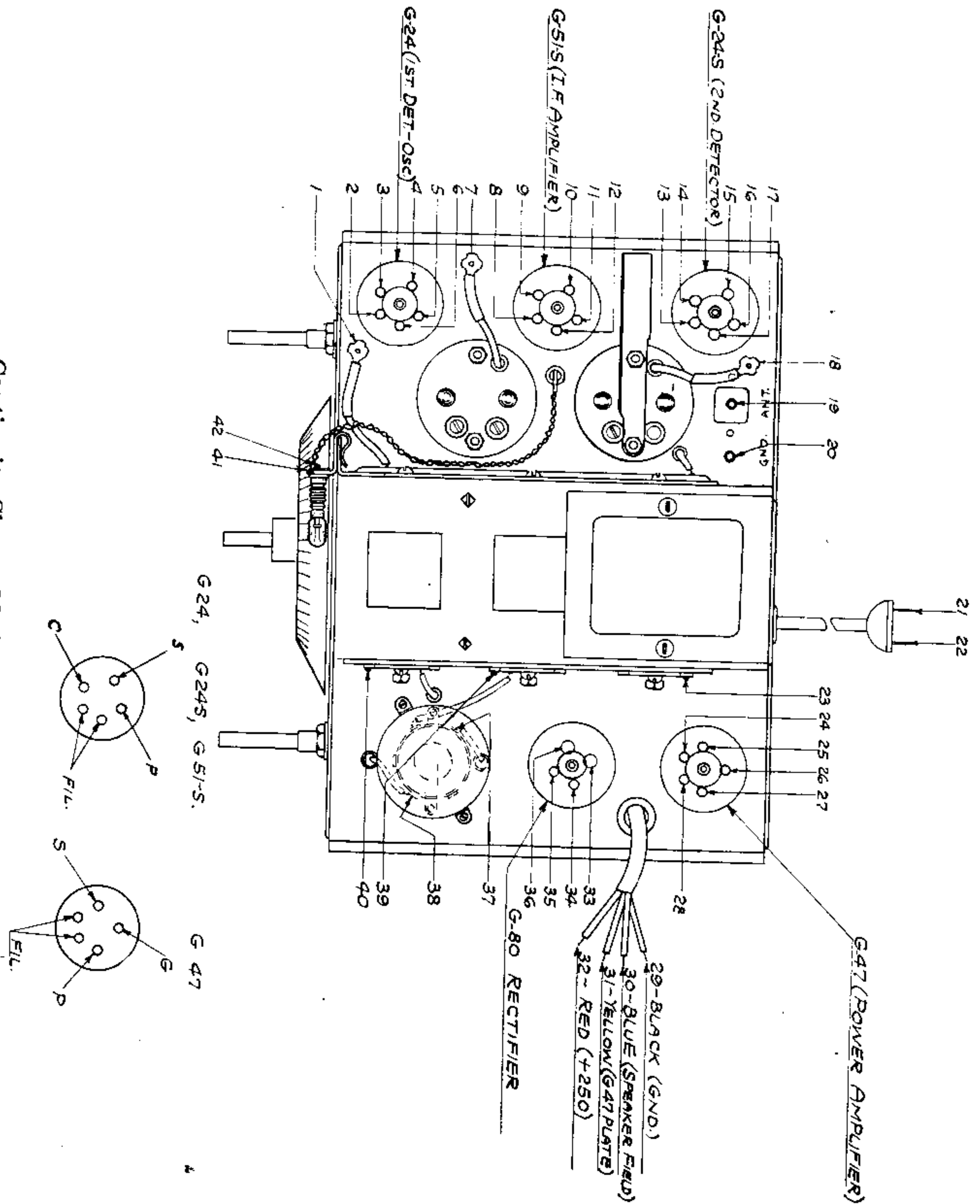


Diagram of Continuity Meter



MODEL 15

[Continuity Tests—Use This Data in Conjunction with Cut on Preceding Page

ALL CONTINUITIES TO GROUND WITH TUBES REMOVED, SPEAKER DISCONNECTED AND VOLUME CONTROL IN MAXIMUM POSITION

Terminal No.	Continuity Meter Switch Position No. 1	Continuity Meter Switch Position No. 2	Normal Reading	If Meter Reading Differs Greatly, Investigate the Following:
1	L R	3	0.5	Secondary of R. F. Transformer in Bottom of Chassis and Front Section of Gang Condenser
2	L R	3	0.4 to 0.5	15 Ohm Filament Center Tap
3	H R	Open	0.7	10,000 Ohm Resistor and Oscillator Cathode Pickup Coil
4	H R	Open	0.5	25,000 Ohm Resistor and Volume Control
5	H R	Open	0.3 to 0.4	Primary of 1st I. F. Transformer, 2000 Ohm Resistor and .1 Mfd. Condenser in 1st Detector Oscillator Plate Circuit
6	Same as Terminal No. 2			If Both 2 and 6 Indicate Open Circuit, the Center of the 15 Ohm C. T. Resistor is not Grounded
2 to 6	L R	3	0.98	Lower Reading Indicated Open 2.5 Volt Filament Winding in Power Transformer
7	L R	55	0.3	Secondary of 1st I. F. Transformer and Aligning Condenser
8	Same as Terminal No. 2			
9	L R	Open	0.18 to 0.9	Volume Control and .1 Mfd.
10	Same as Terminal No. 4			
11	H R	Open	0.3 to 0.4	Primary of 2nd I. F. Transformer
12	Same as Terminal No. 2			
13	Same as Terminal No. 2			
14	H R	Open	0.3 to 0.4	40,000 Ohm Resistor and .5 Mfd. Condenser in 2nd Detector Cathode Circuit
15	Same as Terminal No. 4			
16	H R	Open	0.05	2nd Detector Plate 300,000 Ohm Resistor .0005 Mfd. and .01 Mfd. Condensers
17	Same as Terminal No. 2			
18	L R	55	0.3 to 0.4	Secondary of 2nd I. F. Transformer and Aligning Condenser. Sets Provided with Local-Distance Switch Should be Checked in "Distance" Position.
18	L R	Open	0.15 to 0.2	On Model 150 Only
19	L R	3	0.1 to 0.2	Primary of R. F. Transformer on Top of Chassis and Volume Control

ALL CONTINUITIES TO GROUND WITH TUBES REMOVED, SPEAKER DISCONNECTED AND VOLUME CONTROL IN MAXIMUM POSITION

Terminal No.	Continuity Meter Switch Position No. 1	Continuity Meter Switch Position No. 2	Normal Reading	If Meter Reading Differs Greatly, Investigate the Following:
20	L R	3	Full	No Reading Indicates Ground Post Not Grounded
21	H R	Open	0	Line Cord, Switch, .01 Mfd. Condenser to Primary of Power Transformer
22	Same as Terminal No. 21			
21 to 22	L R	3	0.2 to 0.3	Power Transformer Primary, Line Cord and Switch
23	H R	Open	0	Rear Section of Gang Condenser and Oscillator Tracking Condenser
24	Same as Terminal No. 2			
25	H R	Open	0.3 to 0.4 and 0.4 to 0.5	Electrolytic Condensers, 30,000 Ohm and 25,000 Ohm Resistors and Volume Control. Note that the Readings Vary According to the Polarity of the Test Leads. Use the Polarity Giving the Lowest Reading (0.3 to 0.4)
26	H R	Open	About 0.03	100,000 Ohm, 1 Megohm, 200,000 Ohm and 300,000 Ohm Resistors and 0.25 Mfd. Condensers.
27	H R	Open	0	.005 Mfd. and 0.3 Mfd. Condensers and Tone Control. About 0.3 with Speaker Connected
28	Same as Terminal No. 2			
29	L R	3	Full	Speaker Cable
30*	H R	Open	0.1 to 0.4	Electrolytic Condensers and High Voltage Secondary
31*	Same as Terminal No. 27			
32*	Same as Terminal No. 25			
33	Same as Terminal No. 25			
34	H R	Open	0.1 to 0.3	High Voltage and Winding Electrolytic Condensers About 0.9 with Speaker Connected
35	Same as Terminal No. 34			
34 to 35	L R	Open	0.7 to 0.8	High Voltage Winding
36	Same as Terminal No. 33			
33 to 36	L R	3	0.96	G-80 Filament Winding
37	L R	3	0.7	Primary of R. F. Transformer under Chassis and Lower Half of Secondary of R. F. Transformer on Top of Chassis
38	Same as Terminal No. 19			Wire from Antenna Post to Volume Control and R. F. Coil

(*) See Table for Continuity Tests with Speaker Connected to Chassis.

ALL CONTINUITIES TO GROUND WITH TUBES REMOVED, SPEAKER DISCONNECTED AND VOLUME CONTROL IN MAXIMUM POSITION

Terminal No.	Continuity Meter Switch Position No. 1	Continuity Meter Switch Position No. 2	Normal Reading	If Meter Reading Differs Greatly, Investigate the Following:
39	L R	3	0.5	Secondary of R. F. Transformer on Top of Chassis and Center Section of Gang Condenser
40	Same as Terminal No. 1			
41	Same as Terminal No. 2			
42	Same as Terminal No. 2			

MODEL 15

Continuity Tests with the Speaker Connected to the Chassis

30	L R	Open	0.4 to 0.5	Speaker Field
31	H R	Open	0.2 to 0.4	Same as 32 in Other Table
31 to 32	L R	Open	0.7 to 0.8	Primary of Output Transformer

Checking Volume Control

19	L R	3	0.1 to 0.2	Volume Control at Maximum Volume
19	L R	3	Full	Should Give Full Reading at Minimum Position
9	L R	Open	0.8 to 0.9	Volume Control at Maximum
9	L R	Open	0.1 to 0.2	Volume Control at Minimum

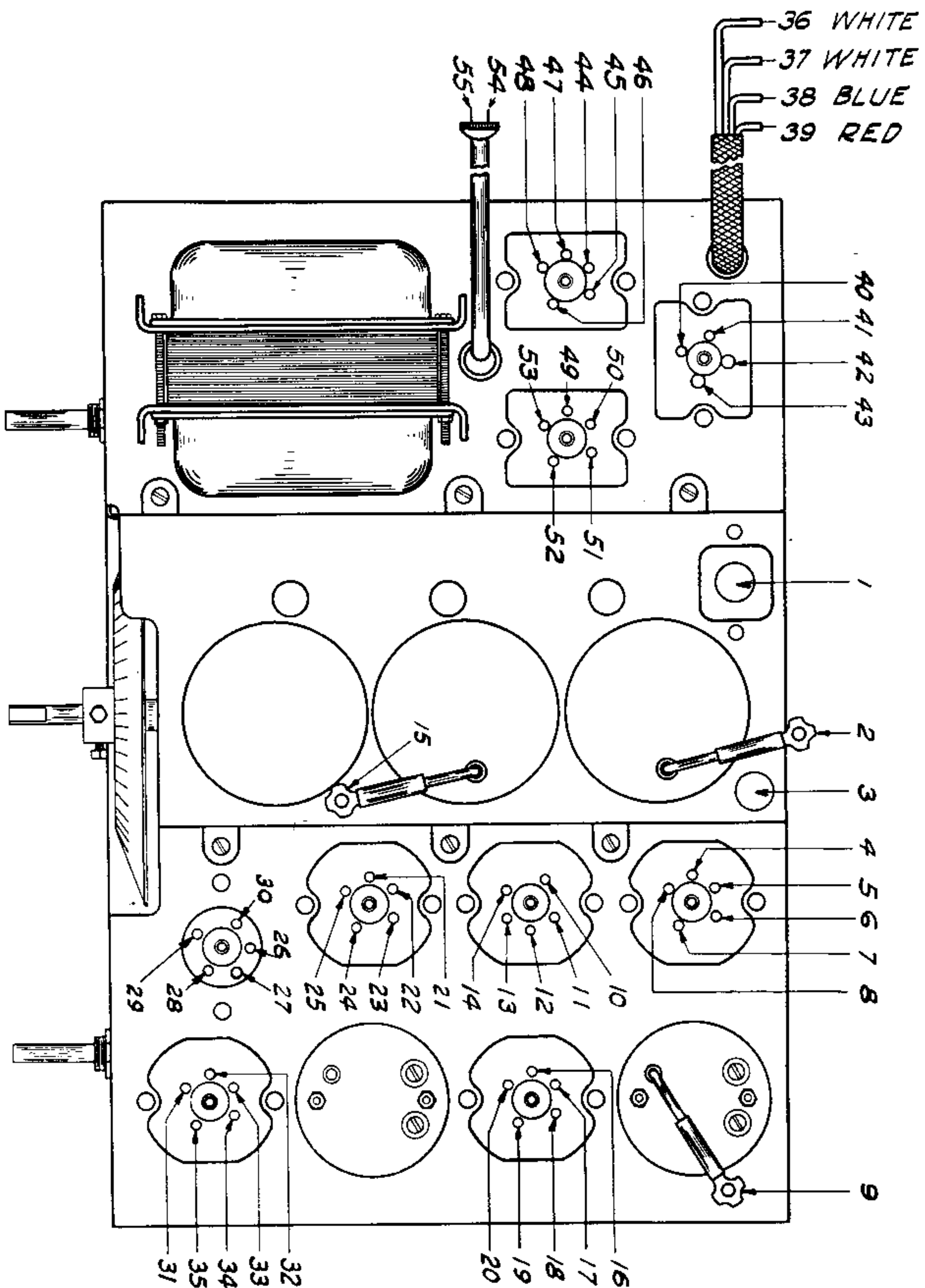
MODEL 15 CHASSIS

Table of Voltages to Ground

Tube		Fil. Volts A. C.	Plate Volts D. C.	Grid Volts D. C.	Cathode Volts D. C.	Plate Current M. A.— D. C.	Screen Volts D. C.
Purpose	Type						
1st Det.—Osc.....	G-24	2.5	250		9	0.9	90
I. F. Amplifier.....	G-51-S	2.5	250		3.0**	7.0	90
2nd Detector.....	G-24-S	2.5	250		9	0.17	90
Power Amplifier.....	G-47	2.5	250	-16.5*	...	32	250
Rectifier.....	G-80	5.0	...		...	54	...

*This cannot be measured with the customary 1000 ohm per volt meter because of the high resistance between the grid and ground. If there is any doubt about the pentode bias, check the 100,000 ohm, 1 megohm, 200,000 and 300,000 ohm resistors and .25 M.F.D. Condenser in this circuit and be sure the speaker field voltage is correct, 112 volts. Also measure the pentode plate and screen voltages and if they are 250 volts, the plate current should be 32 M.A.

**This should rise to 42 when the volume control is turned to minimum.



Continuity Chart—Model 25 Chassis

MODEL 25

Continuity Tests—Use This Data in Conjunction with Cut on Preceding Page

ALL CONTINUITIES TO GROUND WITH TUBES REMOVED, SPEAKER DISCONNECTED, VOLUME AND TONE CONTROL IN MAXIMUM POSITION

Terminal Number	Continuity Meter Switch Position No. 1	Continuity Meter Switch Position No. 2	Normal Reading	If Meter Reading Differs Greatly from "Normal Reading" Investigate the Following:
1	L R	3	.1 to .15	Primary of 1st R. F. Transformer
2	L R	3	.65	Secondary of R. F. Transformer, Gang and Aligning Condenser
3	L R	3	1.0	No Reading Indicates Ground Post Not Grounded
4	L R	3	1.0	G-51 Filament Circuit Not Grounded
5	Same as Terminal No. 4			
4 to 5	L R	3	.98	Indicates Open G-51 Winding
6	L R	55	.15 to .2	0.5 Mfd. Condenser and Volume Control
7	H R	Open	.55	0.25 Mfd. Condenser, 15,000 Ohm and Volume Control
8	H R	Open	.4 to .45	Primary of Second R. F. Transformer, 8 Mfd. Condenser, 15,000 Ohm Resistor
9	L R	55	.32	Secondary of 1st I. F. Transformer and Aligning Condenser
10	Same as Terminal No. 7	Open	.4	Primary of 1st I. F. Transformer and Aligning Condenser, 8 Mfd. Condenser, etc.
11	H R			
12 and 13	Same as Terminal No. 4	Open		
12 to 13	Same as Terminals Nos. 4 to 5			
14	L R	Open	.4	Oscillator Pickup Coil, 2000 Ohm Resistor, 0.1 Mfd. Condenser
15	L R	3	.47	Secondary of 2nd R. F. Transformer, Gang and Aligning Condenser
16 and 17	Same as Terminal No. 4			
16 to 17	Same as Terminals Nos. 4 to 5			
18	Same as Terminal No. 6			
19	Same as Terminal No. 10			
20	H R	Open	.4 to .45	Primary of 2nd I. F. Transformer and Aligning Condenser, etc.
21 and 22	Same as Terminal No. 4			
21 to 22	Same as Terminals Nos. 4 to 5			
23	L R	3	1.0	No Reading Indicates Cathode Not Grounded
24	H R	Open	.12	100,000 Ohm Resistor Open or Not Grounded, Shorted 50 Micro-Microfarad Condenser, etc.
25	H R	Open	.55	Oscillator Plate Coil, 15,000 Ohm Resistor and Volume Control
26 and 27	L R	55	.15	210 Ohm Resistor, 2.5 Volt Filament Winding
26 to 27	L R	3	1.0	No Reading Indicates Open Filament Winding
28	L R	3	1.0	No Reading Indicates Cathode Not Grounded
29	H R	Open	.05	One Half of Secondary of Second I. F. Transformer and 250,000 Ohm Resistor
30	H R	Open	.45	.001 Mfd. Condenser Shorted, R. F. Choke, B Plus Choke, Primary of Input Transformer, etc.
31	Same as Terminal No. 30			
32 and 33	Same as Terminals Nos. 26 and 27			
32 to 33	Same as Terminals Nos. 26 to 27			
34	Same as Terminal No. 28			

ALL CONTINUITIES TO GROUND WITH TUBES REMOVED, SPEAKER DISCONNECTED, VOLUME AND TONE CONTROL IN MAXIMUM POSITION

Terminal Number	Continuity Meter Switch Position No. 1	Continuity Meter Switch Position No. 2	Normal Reading	If Meter Reading Differs Greatly from "Normal Reading" Investigate the Following:
35 36 and 37 38* 39 40	Same as Terminal No. 29 L R H R H R L R	3 Open Open 55	0 .35 to .45 .42 .2 to .25	Grounded G-47 Plate or Speaker Cable 8 Mfd. Condenser, Power Choke, 80 Filament Winding 8 Mfd. Condenser, 15,000 Ohm Resistor, etc. One-Half of High Voltage Secondary
41 40 to 41 42 43 42 to 43	Same as Terminal No. 40 L R Same as Terminal No. 38 Same as Terminal No. 38 L R	Open Open 3	.85 1.0	High Voltage Secondary G-80 Filament Winding
44 and 47 44 to 47 49 and 50 49 to 50 45 and 51	Same as Terminals Nos. 26 and 27 Same as Terminals Nos. 26 to 27 Same as Terminals Nos. 44 and 47 Same as Terminals Nos. 44 to 47 H R	Open Open Open	 .45	See No. 30
46 47 48 51 52	H R See No. 44 L R See No. 45 Same as Terminal No. 46	Open 3 3 3	.15 0	One-Half Secondary of Push Pull Input, Transformer, 100,000 Ohm and 500,000 Ohm Resistors Grounded Plate Terminal, 0.3 Mfd. Condenser
46 to 52 53 54 55 54 to 55	H R L R L R Same as Terminal No. 54 L R	Open 3 3 3	.75 0 0 .45	Secondary of Push-Pull Input Transformer, 500,000 Ohm Resistor Grounded Volume Control. See No. 48 Grounded Primary of Power Transformer Off-On Switch; Primary of Power Transformer

Continuity with Speaker Connected

ALL CONTINUITIES TO GROUND WITH TUBES REMOVED, SPEAKER DISCONNECTED, VOLUME AND TONE CONTROL IN MAXIMUM POSITION

Terminal Number	Continuity Meter Switch Position No. 1	Continuity Meter Switch Position No. 2	Normal Reading	If Meter Reading Differs Greatly from "Normal Reading" Investigate the Following:
48 and 53 38 and 39	H R H R	Open Open	.45 to .50 .45 to .50	Primary of Output Transformer. Also see No. 30 Speaker Field. Also see No. 30

*Note that the readings vary according to the polarity of the test leads. Use the polarity giving approximately the same results as indicated above.

Table of Voltages to Ground

Model 25

Tube Purpose	Type	Fil. Volts A. C.	Plate Volts D. C.	Fil. to Ground D. C.	Cathode Volts	Plate Current M. A.— D. C.	Screen Volts
R. F. Amp.	G-51's	2.5	260	—	3.5	5.0	90
1st Det.	G-51's	2.5	260	—	8.0	1.0	90
Osc.	G-27	2.5	90	—	—	3.5	—
I. F.	G-51's	2.5	260	—	3.5	5.5	90
2nd Det.	G-27's	2.5	115	—	—	14	—
2nd Det.	G-27's	2.5	115	—	—	14	—
Power Amp.	G-47	2.5	245	-16.5	—	32	260
Power Amp.	G-47	2.5	245	16.5	—	32	260
Rectifier	G-80	5.	400	—	—	120 (Total)	—

Speaker Field 70 Volts

D. C. First Condenser 385 Volts

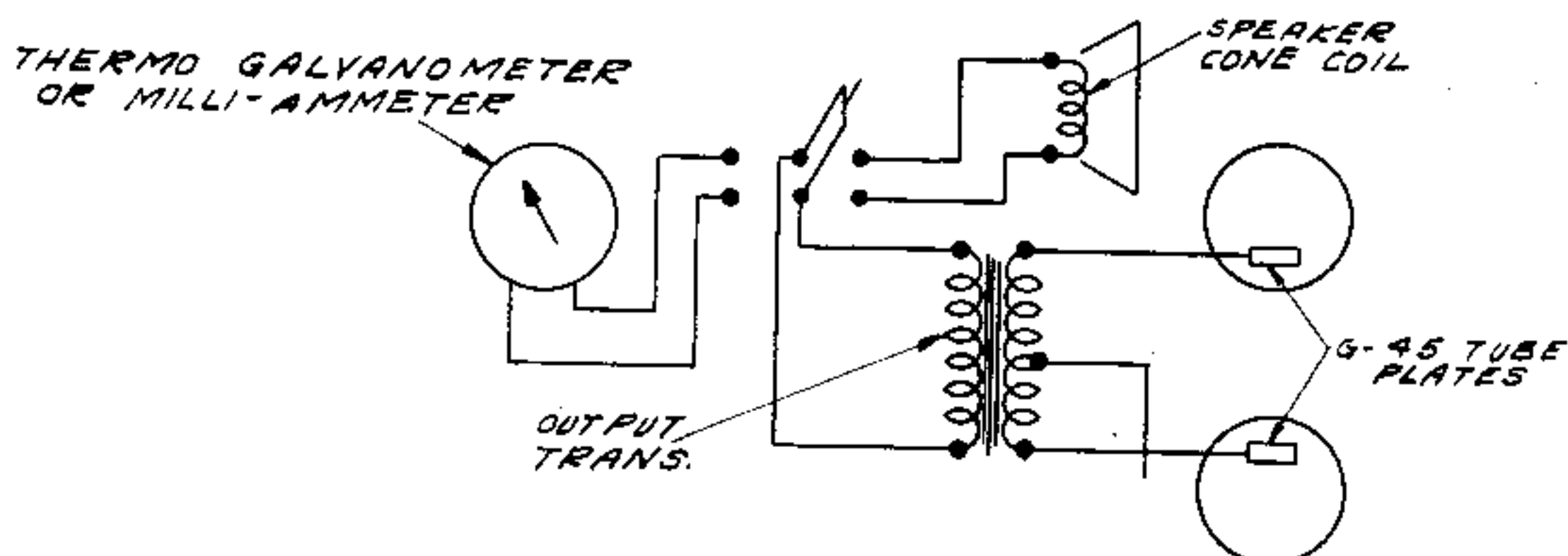
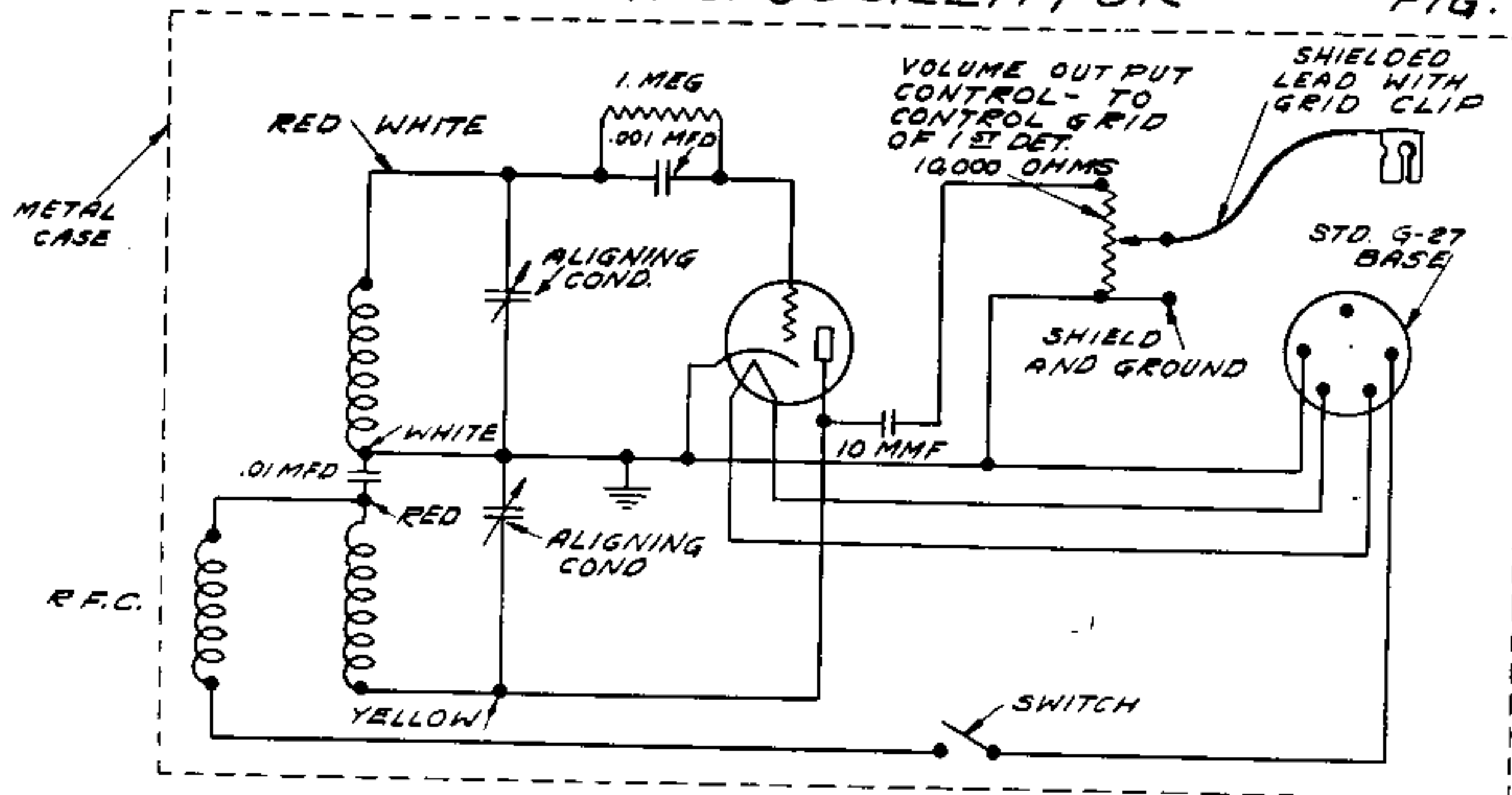
D. C. Second Condenser 330 Volts

Line Voltage 115 Volts

Volume Control—Maximum

MAJESTIC 175 K.C. OSCILLATOR

FIG. 96



INSTRUCTIONS
I.F. TRANSFORMER SHOWN IN ABOVE OSCILLATOR CIRCUIT SUITABLE FOR 175 K.C. OPERATION MAY BE PURCHASED FROM GRIGSBY-GRUNOW CO. THROUGH THE LOCAL DISTRIBUTOR.

- OPERATION**
1. INSERT G-27 PLUG IN OSCILLATOR SOCKET
 2. PLACE G-27 OSCILLATOR TUBE TAKEN FROM CHASSIS IN 175 K.C. OSCILLATOR SOCKET.
 3. SET OUTPUT METER SWITCH TO "SPEAKER" POSITION
 4. AFTER TUBE IS WARM CLOSE CIRCUIT SWITCH.
 5. ADJUST VOLUME OUTPUT CONTROL TO GIVE ON SCALE READING ON OUTPUT METER.
 6. ALIGN I.F. STAGE IN CHASSIS TO RESONANCE ; I.E. MAXIMUM READING ON OUTPUT METER.

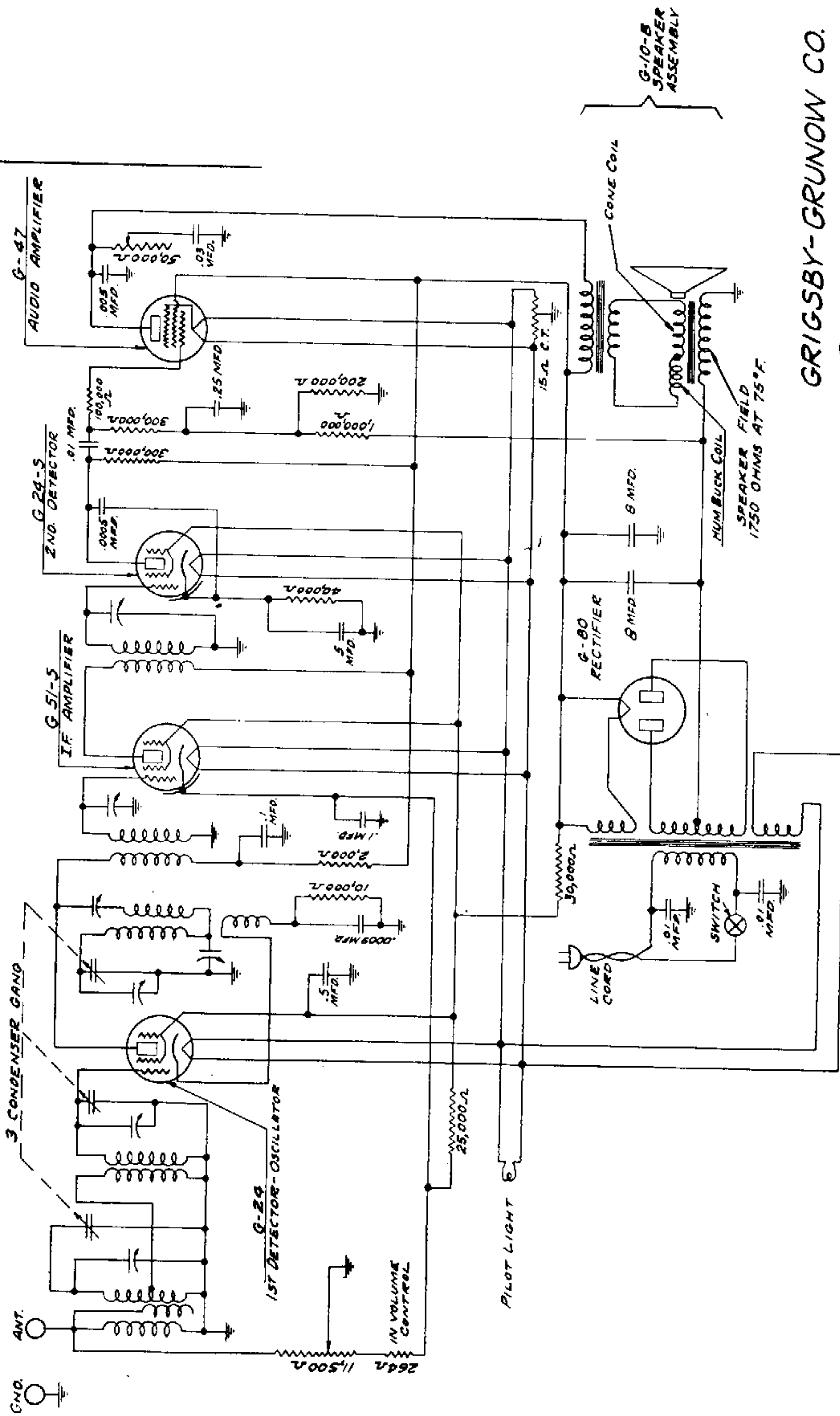
NOTE : OSCILLATOR SHOULD BE CHECKED BEFORE USING BY PLUGGING IN ON A STANDARD O.K. CHASSIS AND ADJUSTING ALIGNING SCREW ON 175 K.C. OSCILLATOR TO RESONANCE WITH I.F. STAGE OF STANDARD CHASSIS. THIS WILL INSURE THE OSCILLATOR BEING ON THE PROPER FREQUENCY.

GRIGSBY GRUNOW CO.
CHICAGO, U.S.A.

SCHEMATIC DIAGRAM OF MAJESTIC SCREEN GRID SUPERHETERODYNE RECEIVER
 MODEL 15 AND 15-B CHASSIS (SERIAL NO. 65,150 AND OVER) 115 AND 230 VOLTS, 25-50 AND 50-60 CYCLES.
 POWER REQD. - 60 WATTS.

FIG - 122

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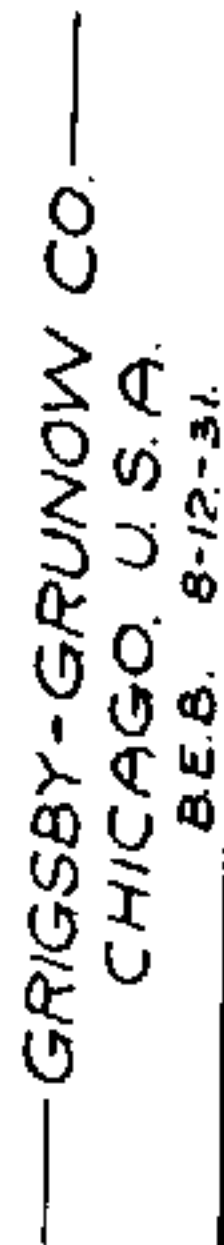


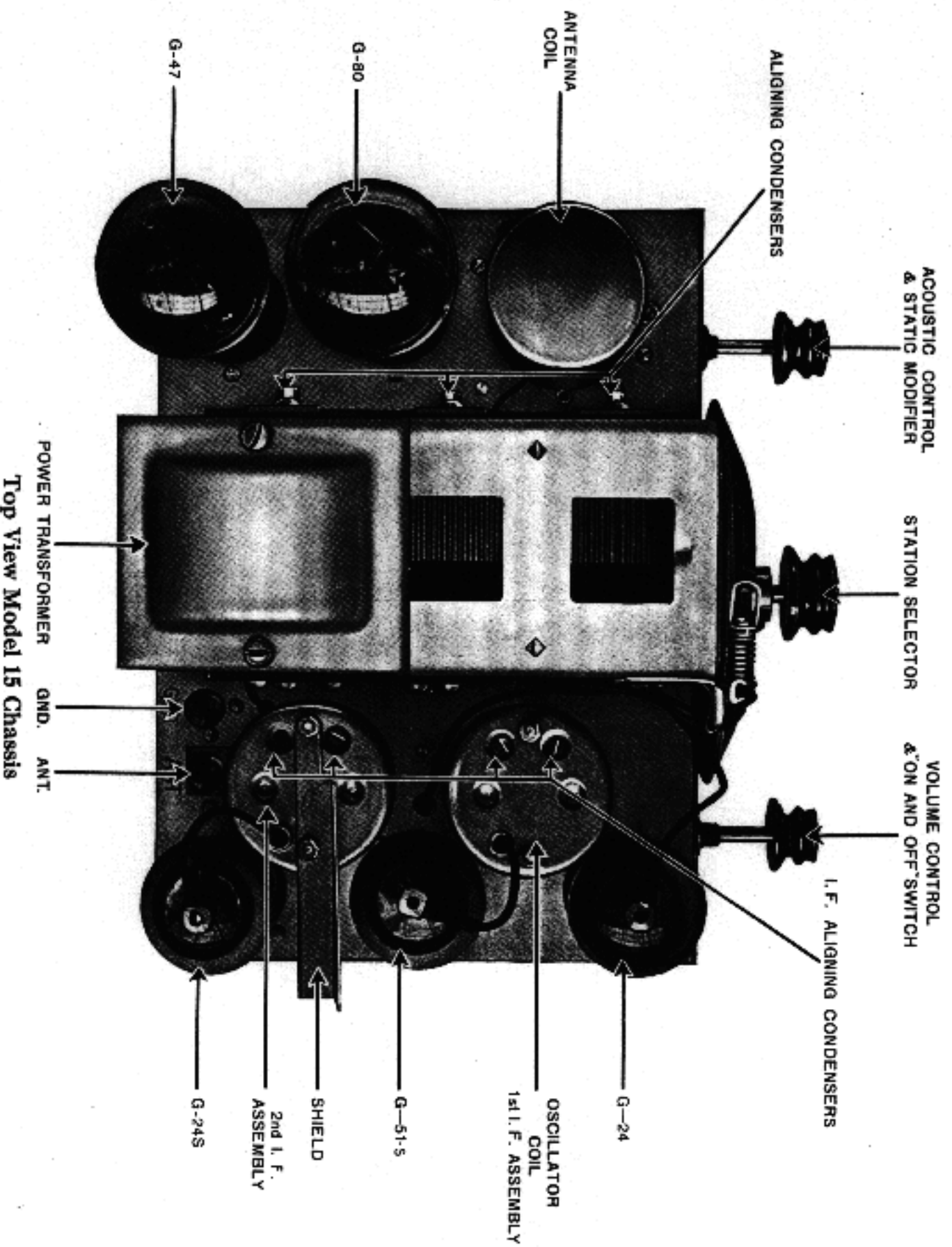
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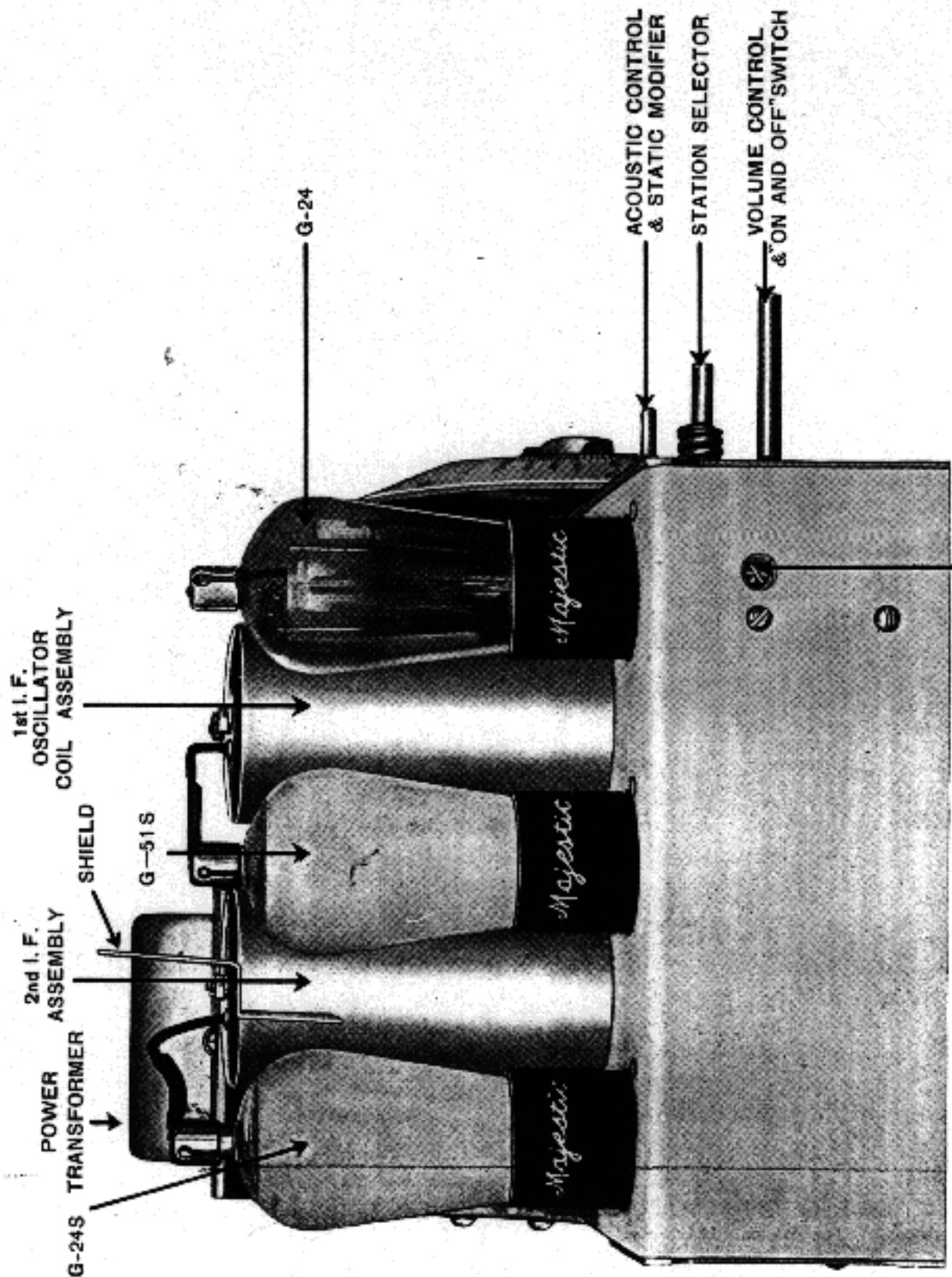
CHICAGO, U.S.A.

J.L.M. 10-12-31

FIG. 116
ISSUE-1 8-26-31
ISSUE-2 8-31-31
ISSUE-3 9-8-31
ISSUE-4 10-14-31
ISSUE-5 10-21-31

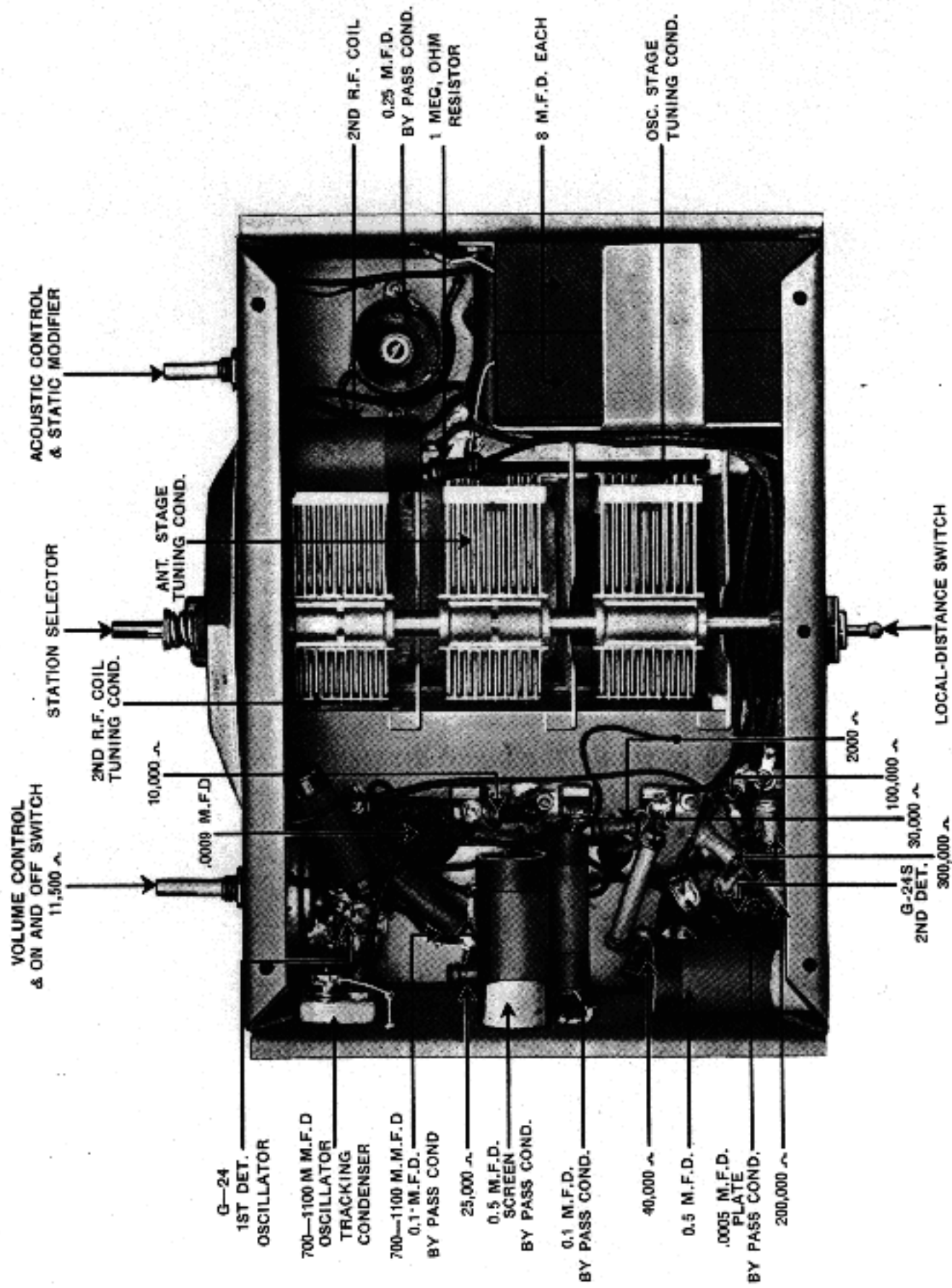




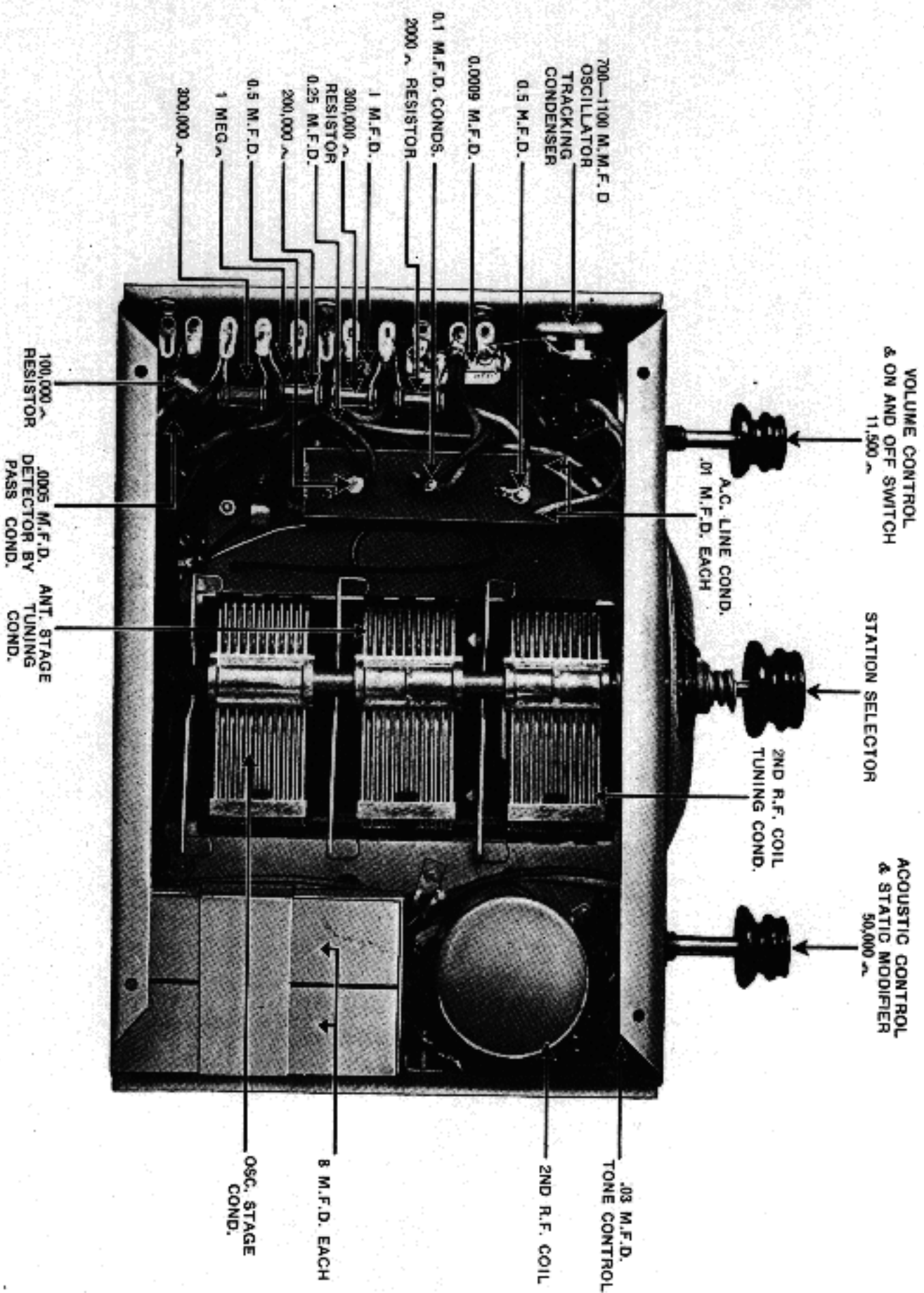


OSCILLATOR
TRACKING CONDENSER

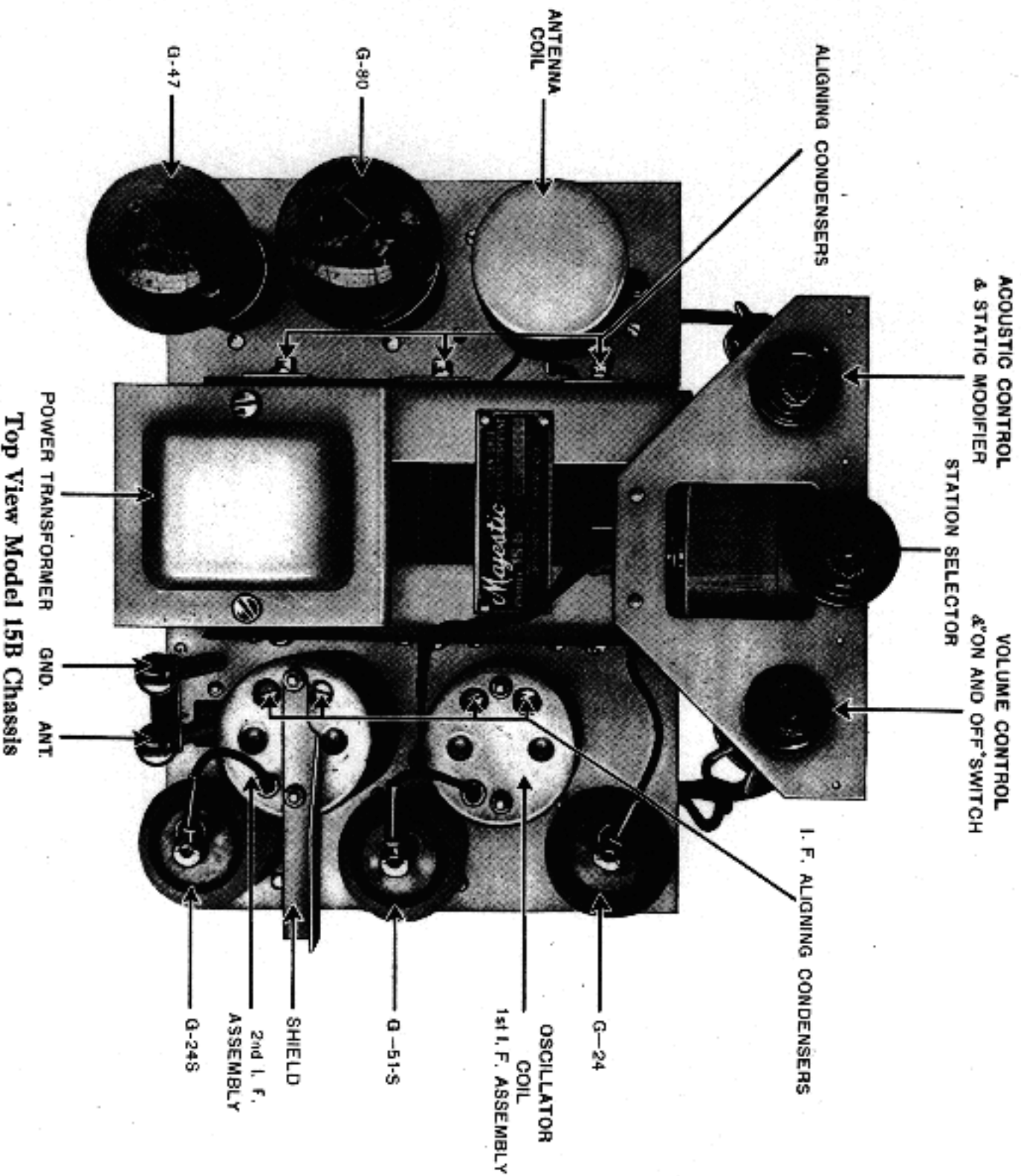
Side View Model 15 Chassis

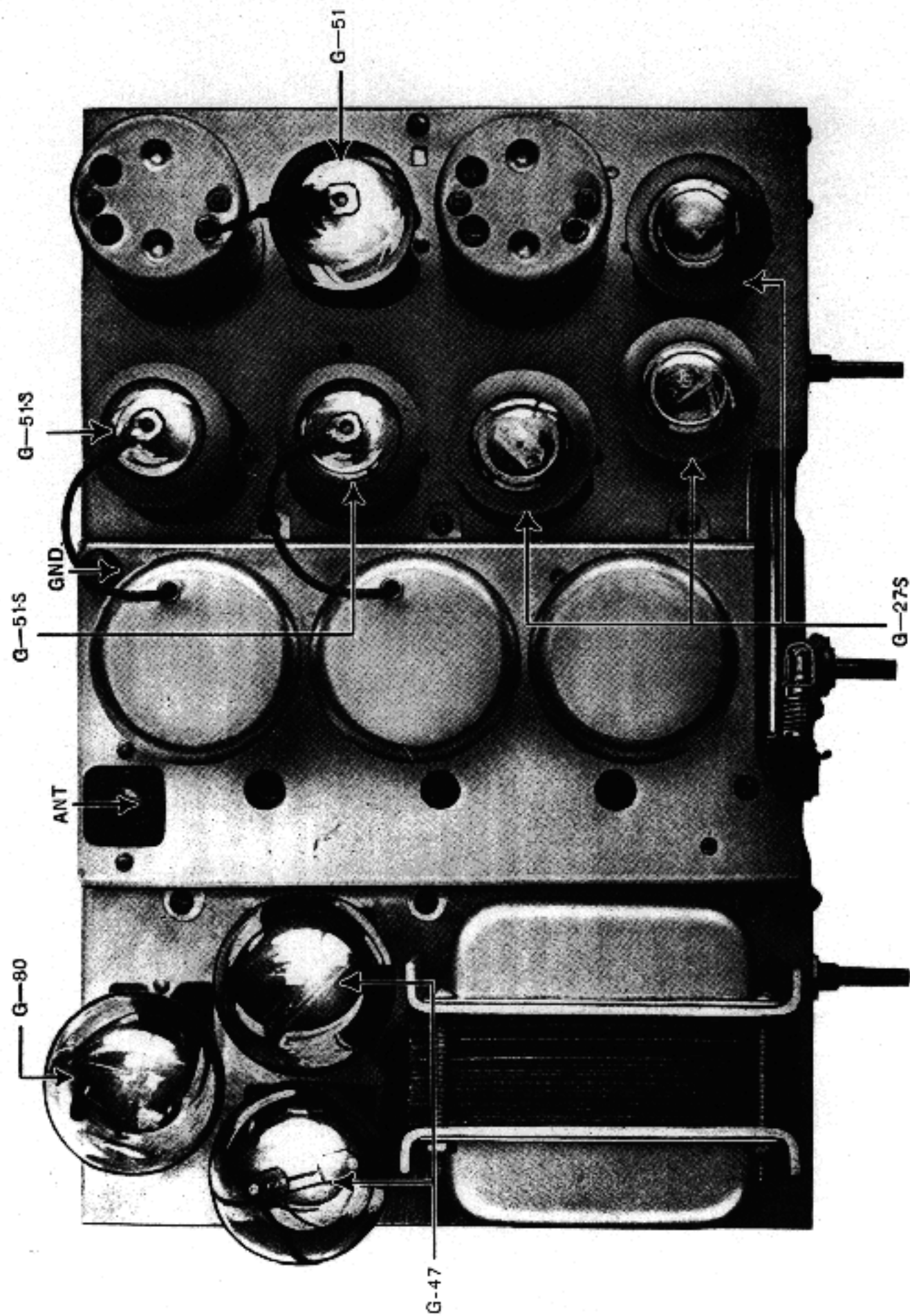


Bottom View Model 15 Chassis

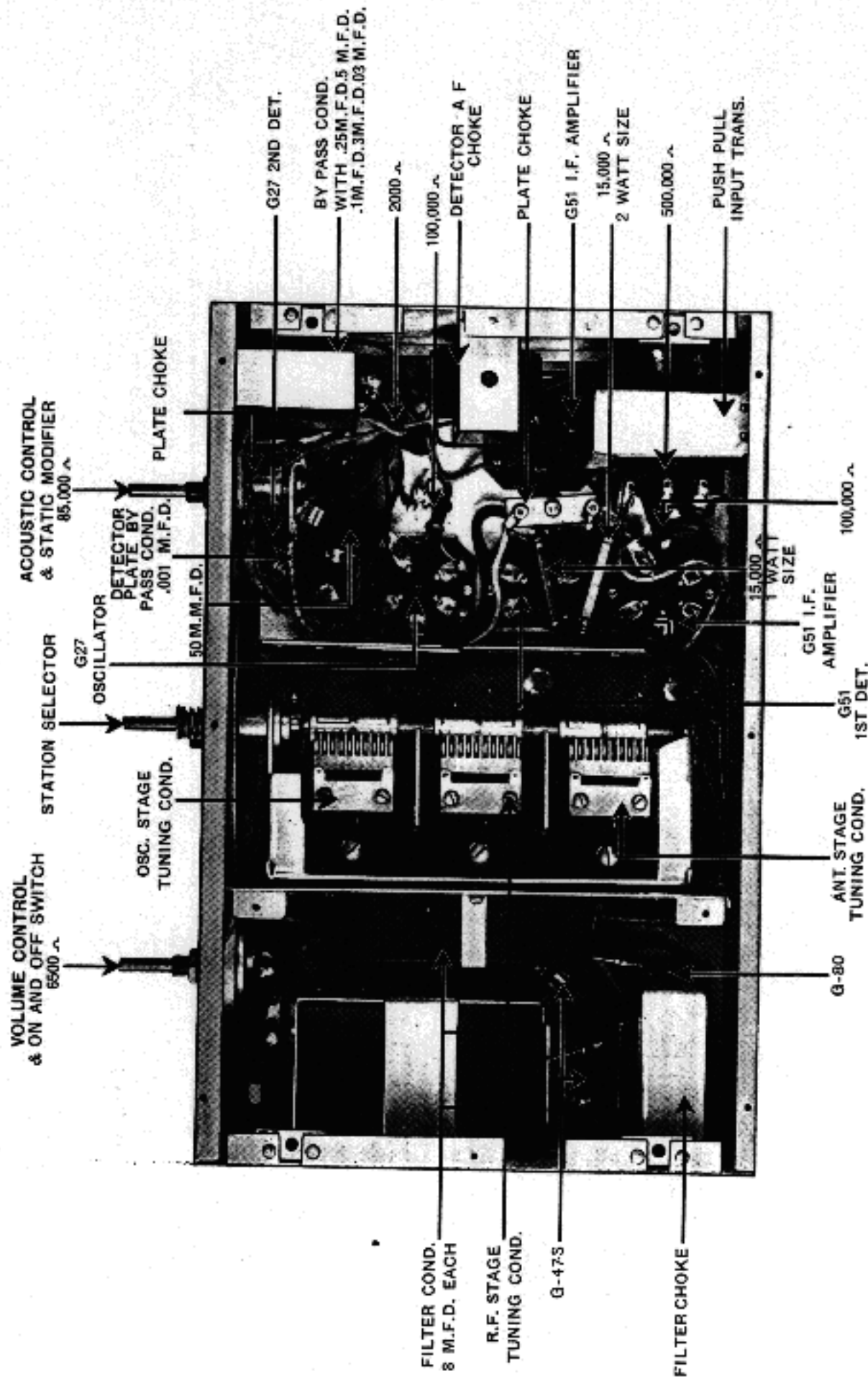


Bottom View Model 15B Chassis





Top View Model 25 Chassis

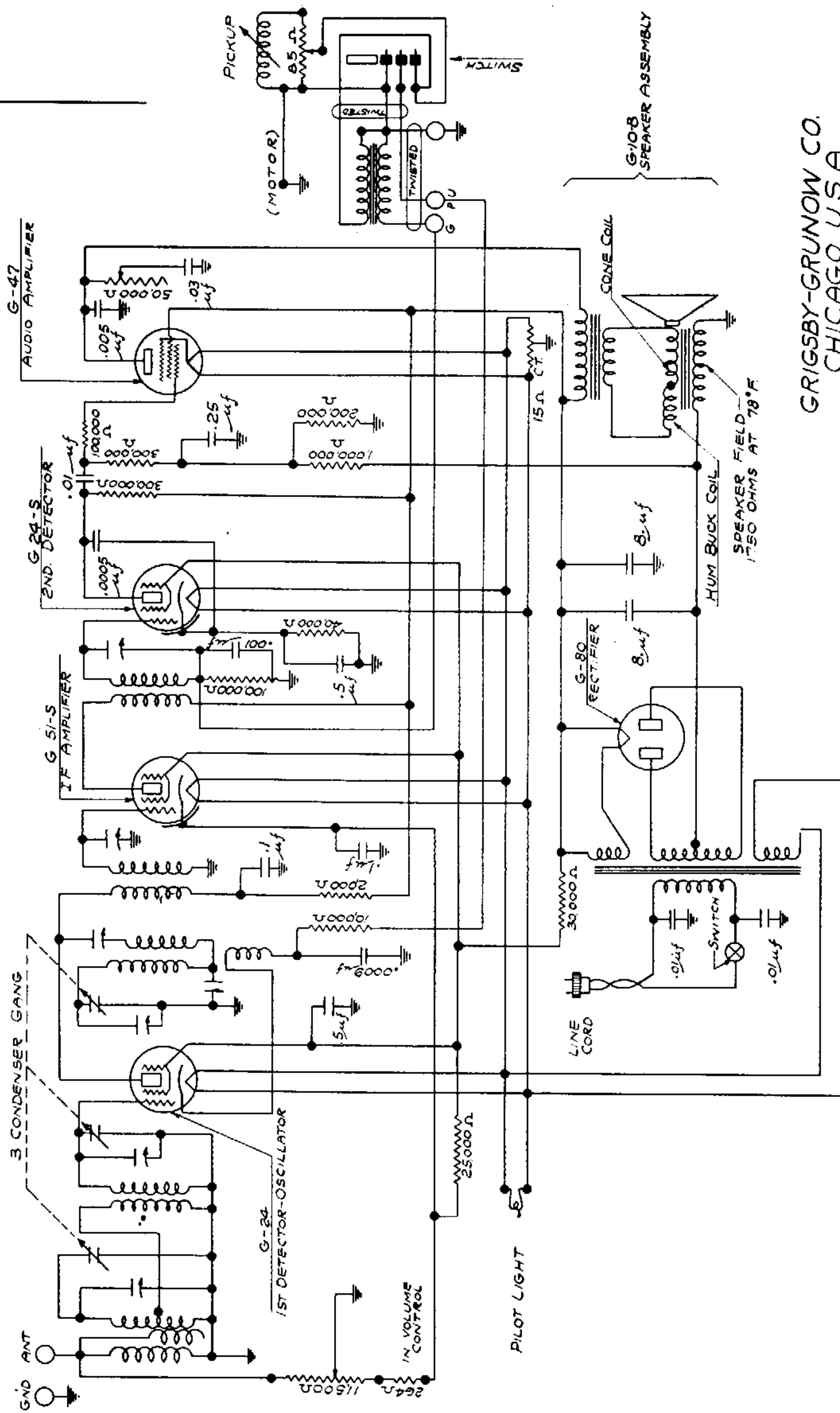


Bottom View Model J25 Chassis

SCHEMATIC DIAGRAM OF MAJESTIC SCREEN GRID SUPERHETERODYNE RECEIVER
AND ELECTRIC PHONOGRAPH COMBINATION. MODEL 150 CHASSIS.
115 AND 230 VOLTS, 25-50 AND 50-60 CYCLES.
POWER REQD. — 90 WATTS WITH MOTOR.

FIG. — 119

ISSUED 9-24-31
1930C-2 10-18-31



GRIGSBY-GRUNOW CO.
CHICAGO, U.S.A.

B.E.B. 9-24-31

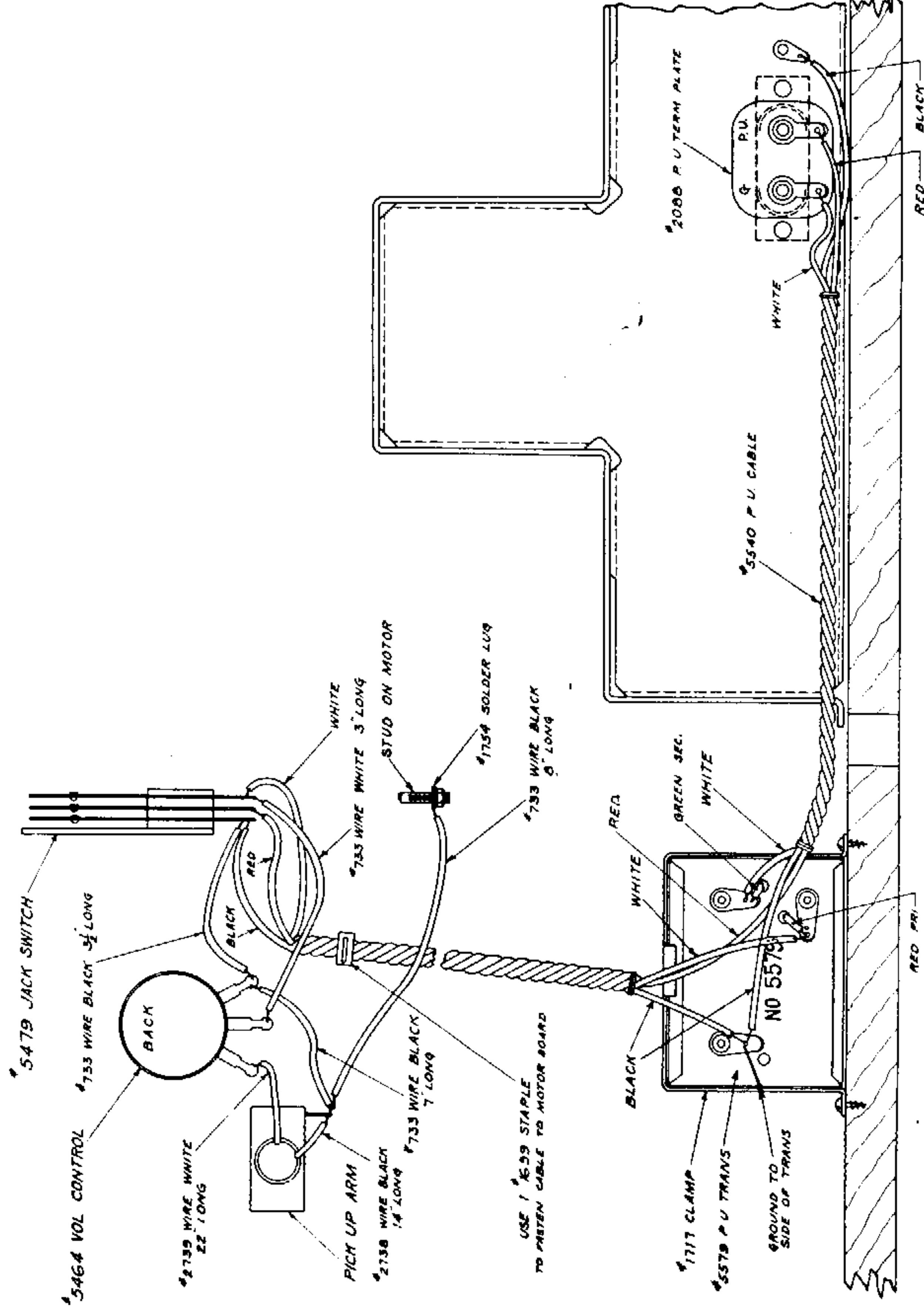
PART NAME

FIGURE

5551

WIRING DIAGRAM FOR PICK UP (MODEL 155)

REVISING	ISSUE	MEMO
9-11-31	1	5130
9-24-31	2	5040



VIEW OF REAR MODEL 155

MODEL 155

USED ON

REQ

ORR

REQ

DEPT.

LOW WT PER 1000

PER WT PER 1000

SARGENT & GREEN CO

CHICAGO, ILL.

Technical Data for Model 150 Majestic Phonograph Chassis

The radio circuit and performance of the Model 150 Radio Phonograph Combination chassis, which is employed in the Castlewood Model, is identical with that of the Model 15 Chassis.

The front panel controls of the Castlewood Model are radio controls only, and are the same as that of the Model 15 Receiver as employed in the Havenwood, Ellswood and Sherwood Models.

The phonograph side of the Castlewood Model 150 Combination consists of a pick-up, pick-up transformer, phonograph volume control, phono-radio switch and motor board assembly.

The phonograph volume control is separate from the radio volume control and is located alongside the turntable on the motor board as is the phono-radio switch. This arrangement has been used not only for the purpose of insuring against any interaction between the radio and phonograph circuits, but, also, as a means for providing more convenience and ease in operation. Separate controls for radio and phonograph will lessen the complexity of control arrangements ordinarily found on most combinations.

The phono-radio switch is located in the pedestal which supports the phonograph pick-up arm. Lifting of the pick-up off the pedestal automatically switches the Receiver for phonograph operation. Replacing the pick-up on the pedestal automatically switches the Receiver for radio operation.